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PART-II

EXTRAORDINARY

JAMNAGAR MUNICIPAL CORPORATION JAMNAGAR

PARKING POLICY YEAR : 2022 FOR JAMNAGAR CITY

CONTENTS

Sr. No.	Description			
1	Introduction to Jamnagar			
2	Motorization			
3	Guideline for parking layouts			
4	Parking in Jamnagar			
	(a) Parking Supply			
	(b) Parking Demand			
	(c) List of present pay & park sites			
	(d) At present rates (charges) of pay & park			
	(e) List of proposed pay & park sites			
5	Existing Literature			
	(a) Global Approaches			
	(b) Parking Economics			
	(c) Parking Standards			
	(d) Need for a Paradigm Shift			

Sr. No.	Description		
6	Existing Policies and Plans		
	(a) The National Urban Transport Policy		
7	Need for Parking Policy		
8	Strategic intent		
9	Guiding Principles		
10	Parking Policy Directives		
A	Policy 1: Charging for parking		
	(a) Parking districts based on property Tax zones		
	(b) Right of Way		
	(c) Vehicle type and duration of parking		
В	Policy 2: Enforcing Parking		
	(a) Legal framework for JMC to enforce parking management		
	(b) Traffic Cell within JMC		
С	Policy 3: Reducing parking minimums		
D	Policy 4: Sharing Parking		
Е	Policy 5: Regulating IPTS parking		
F	Policy 6: Managing freight		
11	Parking technologies smart parking		
	(a) Advance information on availability of parking lots		
	(b) parking guidance and information system		

ABBREVIATIONS

CMP	Comprehensive Mobility Plan
LCMP	Low Carbon Mobility Plan
CMS	Changeable Message Signs
DCR	Development Control Regulations
ECS	Equivalent Car Space
FSI	Floor Space Index
GDP	Gross Domestic Product
GPMC	Gujarat Provincial Municipal Corporation
IPT	Intermediate Public Transport
IRC	Indian Road Congress
ITS	Intelligent Transport Systems
NUTP	National Urban Transport Policy
PGI	Parking Guidance and Information
PPP	Public Private Partnership
RFID	Radio Frequency Identification
JMC	Jamnagar Municipal Corporation
JADA	Jamnagar Area Development Authority
TDM	Travel Demand Management
TEO	Traffic Enforcement Officer

1. INTRODUCTION TO JAMNAGAR

Jamnagar, the sixth-largest city in the state of Gujarat, has experienced significant growth in recent years. In the last two decades, the urban population has around 6.5 lacs and is expected to reach about 10 lacs in 2030. Since over half the city's population is in the productive age category, the city is expected to continue to grow rapidly in the future. The city area is 128.34 Sq.Km. which is divided into 16 wards with an average density of 5065 people/Sq.Km. Densities in the inner city are much higher than the rest of the city. The central portions of the city are dense and have mixed land uses, and the majority of residents live in the central area of the city. The residences in the central portion of the city comprise of row houses and low-rise apartments, packed closely in a fine- grain urban fabric. The newer developments are typical of high-rise apartments, being loosely packed alongside wider roads. The major commercial area remains in the old city, and along the major radial and connecting radial in the outer parts of the city. Industries are located in the Sankar tekari industrial area (Phase-II), Dared industrial area (Phase-III) and Kansumara industrial area (Phase-IIII) which were developed by the Gujarat Industrial Development Corporation (GIDC).

Location : Jamnagar is located on the western coast of India in the state of Gujarat in Saurashtra Elevation 18m (59ft) from mean sea level. It lies between latitude 22.2814 N and longitude 70.327 E.

Climate: The climate in the city is hot and humid. The average maximum and minimum temperatures recorded over the last 40 years are 42° C and 10° C respectively. Average temperature is 27 °C, Wind N at 19 km/h and 25% Humidity.

Rainfall: The average annual rainfall is 575mm. However, over the last 60 years, it has been below normal during 20 years. In these years, the city along with the Jamnagar Urban Development Area (JADA) faced acute water shortage. The average annual rainfall is observed about 575 mm. in jamnagar city area.

Regional Linkage: The road network in the JMC area is very dense, particularly in the old city area, where the network does not follow a particular pattern like the regular grid networks in the newer developments. Most of the city roads have an intense ribbon development of commercial activities, forming a mixed use type of development along the arterials as well as some sub-arterials. Roads are narrow in certain places with varying widths, and the presence of bottlenecks constrains the free flow of motorized vehicles. Most city roads (97 per cent) have a right-of-way (ROW) of up to 15m. The average speed of all modes in the city is 16km/hr, and is much lower in the old city area due to delays from narrow streets and people walking on the streets. Most arterial roads have average speeds higher than 20km/hr. The local streets have an average speed of 10km/hr due to a number of intersections after every kilometer, which makes them more pedestrian and bicycle-friendly.

Footpaths are present on many major roads in the city, but in most areas the width is less than 1.5m and is encroached upon by street furniture, telephone boxes, trees, make-shift shops etc.

Jamnagar City has a dense Road network due to concentration of various commercial and industrial activities in Jamnagar and surrounding towns, the city Road network leading to the surrounding towns is heavily congested. This increasing intensity of traffic is posing a potential threat to the economic vitally and productive efficiency of the city.

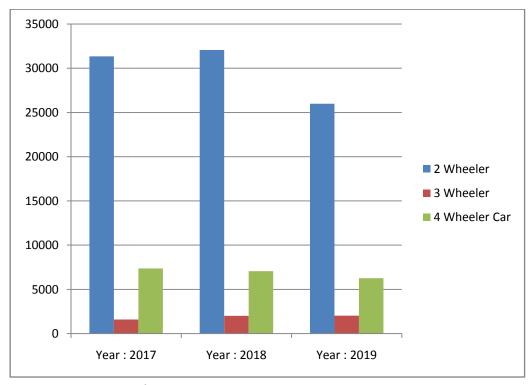
2. MOTORIZATION

Below is the details of motorization with in Jamnagar city, the data is based on Vehicle Registered at RTO – Jamnagar during last three financial year. This clearly shows that average 59 to 60 thousands vehicles are added by year on year.

Vehicle Type Year: 2017 Year: 2018 Year : 2019 2 Wheeler 25990 31336 32067 3 Wheeler 1587 2015 2026 4 Wheeler Car 7367 7054 6266

Year Wise New Registration of Vehicles in Jamnagar city

Source: www.parivahan.gov.in



Source: www.parivahan.gov.in

Traffic Problems:

Private vehicles have become preferred mode of transportation due to attitudinal change in people. Public transportation is not sufficient to cater to the demand of the transportation, due to which an increase in private vehicles has been found. Main challenge is now to increase the capacity and upgrade the service quality level of Public Transport.

Public Transport and Para Transit Characteristics (Jamnagar City Comprehensive Mobility Plan)

Public Transport System is one of the important and essential components of a transport plan. In the present study public transport/ para-transit operators and users survey was carried out to assess the general characteristics and their problems and needs. In all 28 Chhakda operators, 275 auto rickshaw operators and 367 users were enumerated in the survey. The survey was conducted at major transport activity nodes.

Personal Characteristics: (Jamnagar City Comprehensive Mobility Plan)

The following salient findings emerged regarding the personal Characteristics of resident population:

- a). Population distribution under different age groups reveals that majority population (65%) in the study area was in the age group of 15 to 45 while night percent were above 60 years.
- b). The Sex Ratio (number of females per thousand males) in the study area was observed as 928
- c). Overall 86% of the total population was literate with majority of the population (41%) in the study area having primary education qualification followed by 33% of the population having secondary education qualification.
- d). Service/Business constituted 30% of population with 4% employed as casual labour while unemployed population share was 6% while retired population was 5%. Students Accounted for 23% share in population.
- e). The estimated work force participation rate (WFPR) in the study area as estimated from household survey was 32%.
- f). Nearly 85% of the workforce was employed in the private sector

3. GUIDELINE FOR PARKING LAYOUTS

On street parking:-

On street parking means the vehicles are parked on the sides of the street itself. This will be usually controlled by government agencies itself. Common types of on-street parking are as listed below. This classification is based on the angle in which the vehicles are parked with respect to the road alignment. As per IRC the standard dimensions of a car is taken as 5×2.5 meters and that for a truck is 3.75×7.5 meters.

1. Parallel parking:-

The vehicles are parked along the length of the road. Here there is no backward movement involved while parking or no parking the vehicle. Hence, it is the most safest parking from the accident perspective. However, it consumes the maximum curb length and therefore only a minimum number of vehicles can be parked for a given kerb length. This method of parking produces least obstruction to the on-going traffic on the road since least road width is used. The length available to park N number of vehicles, L = N 5.92.

2. 30° parking :-

In thirty degree parking, the vehicles are parked at 30° with respect to the road alignment. In this case, more vehicles can be parked compared to parallel parking.

3. 45° parking :-

As the angle of parking increases, more number of vehicles can be parked. Hence compared to parallel parking and thirty degree parking, more number of vehicles can be accommodated in this type of parking. As length of parking space available for parking number of vehicles in a given kerb is = 3.54N+1.77

4. 60° parking :-

The vehicles are parked at 60° to the direction of road. More number of vehicles can be accommodated in this parking type. As length available for parking N vehicles=2.89N+2.16

5. Right angle parking:-

In right angle parking, the vehicles are parked perpendicular to the direction of the road. Although it consumes maximum width kerb length required is very little. In this type of parking, the vehicles need complex maneuvering and this may cause severe accidents. This arrangement causes obstruction to the road traffic particularly if the road width is less. Moreover, it can accommodate maximum number of vehicles for a given kerb length. Length available for parking number of vehicles is=2.5N.

Off-Street Parking:-

When parking facility is provided at a separate place away from the kerb, it is known as off street parking. Different type of off street parking are as under:

1. Surface car parks:-

Surface car parks this type of parking is used at super market, complex & office.

2. Multi-storey car parks :-

This type of parking design for 400 - 500 car parking. In this type of parking, parking design for max 4 - 5 floors. This parking is use for large area.

3. Roof parks :-

Roof parks Because of less space in many cities parking facility provided on roof of the building.

4. Mechanical car parks:-

In this method with the help of lift cars are lifted from one floor to another floor. Cars are parked in stall with the help of mechanical trolley.

5. Underground car parks :-

Underground car parks Basement of building.

4. PARKING IN JAMNAGAR

This section looks at the present parking situation in Jamnagar.

(a) PARKING SUPPLY

At present Jamnagar has many defined parking areas. Road side parking are free and one parking area is given to the private party on 3 years lease period and two parking plots are are given on annual rent.

(b) PARKING DEMAND

Parking lineup on most of the roads, creating congestion, chaos on major roads and intersections. This negatively impacts the mobility and liveability in the city and saturates the central area and CBD area of the city. On street parking is a common site with clogged up unorganized parking at intersections and on footpaths. As per the survey, due to lack of designated on street parking on most of Central Jamnagar which leads to encroachment of access paths, traffic disruption and an unsafe walking environment. While most of on street parking sites are fully occupied, while the off-street parking sites are underused.

(c) LIST OF PRESENT PAY & PARK SITES

Sr. No.	Parking Site	Parking Area sq.mt
1	Under Railway Over Bridge, Near Digjam Circle	6400
2	T. P. Scheme No2, F. P. No99, Near Mehul Cinemax, Opp. Vishal Hotel	511.87
3	T.P. Scheme No2, F. P. No101, Opp. Mehul Cinemax, Khambhaliya Road	3702.75

(d) AT PRESENT RATES (CHARGES) OF PAY & PARK

@ Under the Railway Over Bridge, Near Digjam Circle

Type of Vehicle	Time	Parking Fee in Rs.
Two Wheeler	0 to 3 Hrs	5
	3 to 12 Hrs	10
	12 to 24 Hrs	15
Four Wheeler	0 to 3 Hrs	10
	3 to 12 Hrs	20
	12 to 24 Hrs	30
Tempo / Truck / Bus	0 to 3 Hrs	20
	3 to 12 Hrs	40
	12 to 24 Hrs	60

@ T.P.Scheme No.-2, F.P.No.-99, Near Mehul Cinemax, Opp. Vishal Hotel =

Rs. 6000 per Vehicle per year

@ T.P.Scheme No.-2, F.P.No.-101, Opp. Mehul Cinemax, Khambhaliya Road =

Rs.6000 per Vehicle per year

The existing parking charges in Jamnagar vary based on vehicle type and duration of parking. it is interesting to note that bicycle parking is not charged. However, the rates for two-wheelers and cars are not exceptionally high. The table below shows indicative pricing of parking.

(e) LIST OF PROPOSED PAY & PARK SITES

Sr. No.	T.P. Scheme No.	Parking Site	F.P. No.	Area in Sq.m.
1	2 (JMC)	B/h. Reliance petrol pump, kamdar colony	14	377.44
2	2 (JMC)	Digjam Circle	54	1223.44
3	2 (JMC)	B/h. Reliance petrol pump, kamdar colony	7	421.05
4	3/A (JADA)	F.P.No.70, Near Aavash	67	662.00
5	3/A (JADA)	F.P.No.70, Near Aavash	69	390.00
6	3/A (JADA)	F.P.No.70, Near Aavash	72	1328.00
7	3/A (JADA)	In Jamnagar transport street	74	963.00
8	3/A (JADA)	Near Jalaram temple, hapa	78	573.00
9	3/A (JADA)	Near Jalaram temple, hapa	79	1636.00
10	3/B (JADA)	B/h. Dhuvav police station	44	2207.00
11	3/B (JADA)	Opp. Balaji oil industry	48	1270.00
12	3/B (JADA)	Near Rameshvar tenement	50	1661.00
13	3/B (JADA)	Near Rameshvar tenement	51	8829.00

Sr. No.	T.P. Scheme No.	Parking Site	F.P. No.	Area in Sq.m.
14	3/B (JADA)	B/h. Yogeshvar dham, hapa	54	2159.00
15	3/B (JADA)	Near SBI bank, hapa	58	4854.00
16	3/B (JADA)	B/h. Shiv shakti society, street no4	59	643.00
17	5 (JADA)	Near Gokul Honda showroom	3/A	1146.00
18	5 (JADA)	Left side of Jamnagar Rajkot Highway, 45m TP Road	7/A	778.00
19	5 (JADA)	Left side of Jamnagar Rajkot Highway, 45m TP Road	7/B	959.00
20	5 (JADA)	B/h. Charan samaj vadi	8/A	461.00
21	5 (JADA)	Near Dumping sit	21/A	7594.00

5. EXISTING LITERATURE:

(a) GLOBAL APPROACHES

There has been extensive research in the area of parking policy and management around the world. Within the multiple debates, Paul Barter1 has identified three clear approaches to how cities have attempted to manage parking. These approaches are:

Conventional approach

The salient features are:

- (a). Parking policy should aim to provide supply to meet demand
- (b). Parking is infrastructure that needs to be provided by government plentiful, free and conveniently located

Within this approach, some cities go for a pure demand and supply based approach, where supply must fulfill demand, while others go for a variation where demand is estimated after considering land use and activities, public transit and economic characteristics. However, both variations are demand based.

Management approach

The salient features are:

- (a). Parking policy is considered a tool to manage larger issues of transport policy and demand management.
- (b). Programs are created that aim to make more efficient use of available parking space.

There are two variations to this approach may be towards multiple objective of increasing efficiency, urban regeneration, mobility and conflict reduction or the approach may be towards a single objective of constraining parking demand.

Market approach

The salient features are:

- (a). Parking is considered equivalent to other market commodities
- (b). Spill over is not considered to be negative; it is an indicator of price sensitivity
- (c). Pricing will achieve equilibrium between demand and supply
 - Too high a price, more spaces would remain vacant.
 - Too low a price, queuing and cruising would happen

Conventional approach	management approach	market approach
Provide supply to satisfy demand	Efficient use of parking space	Parking as a commodity
Infrastructure driven	Constraining parking demand	Parking pricing to archive equilibrium in demand- supply

The conventional response to high demand for parking is to provide additional parking to accommodate increasing private car use. Abundant Parking supply, especially at travel destinations, promotes increasing private car use which results in the need for more parking. This is referred to as the cycle of private car dependency. Proactive use of Travel Demand Management (TDM) strategies can break the cycle of private car dependency and assist with establishing more sustainable travel patterns e.g. use of private transport (bus and rail services).

With an established set of minimum parking requirements in the DCRs and an eagerness to build more multistoried parking lots, Jamnagar seems to be following the conventional approach. However, with strong initiatives in public transport and a general willingness to consider parking pricing, Jamnagar can also be said to be moving towards the management and market based approach. These diverging approaches lead to confusion on the long term parking vision and management strategies.

(b) PARKING ECONOMICS

Many researchers believe that parking has an economic value attached to it and thus shall be treated as a commodity for which the user must pay. Land in the current rush of urbanization is a limited resource for which there is unlimited demand. in such cases, to whom should such a scarce commodity be allocated? Should it be to them who have greatest demand or should it only be allotted to the highest bidder? Undoubtedly, there is need for prioritization of scarce road space.

The next issue is the availability of parking at low rates. As observed, parking is either cheap or nominally charged while it occupies a valuable asset of the city. Subsidy is for users who have the limited means and choices and people demanding parking do not fall in this category. Social and economic motives do not justify subsidies in parking. As soon as parking becomes 'free' it loses its value. Spaces fill up rapidly and queues are formed causing spill over. People cruise for parking leading to increase in vehicle km travelled leading to congestion and pollution, such inequality presents a pressing need for decision makers to look at parking as a valuable economic asset rather than as a solution to infrastructure issue.

(c) PARKING STANDARDS

Cities set parking requirements which specify minimum amount of parking that has to be provided, commonly known as parking minimums. These parking minimums are mandated under building bye-laws of the urban area. The amount of parking varies in relation to the land use and activity present for a given region. Thus, bye-laws specify the parking requirements for apartments, offices, theatres, schools, hospitals and so on. The requirements can be either specified in terms of Equivalent Car Space (ECS) per unit area or in ECS for number of students in a school or number of seats in an auditorium. Different cities use different measures to mandate requirements.

As the trend depicts, most Indian cities like Jamnagar has tendency to provide more parking than required. We have increased the parking minimums over the years. This approach is in contrast to cities around the world, which are reducing minimum parking requirements. Singapore and Hong kong have considerably reduced the already low parking requirements to prevent congestion. Parking minimums provide in building bye-laws lead to increase in parking supply. This puts developers under pressure to underutilize an economically valuable asset. These standards are based solely on land use and do not take into account factors such as proximity to transit, cost of land or the potential for parking sharing and the role for the private sector.

(d) NEED FOR A PARADIGM SHIFT

Globally, parking stories are depicting the need of paradigm shift in how cities should manage parking issues. The table below shows comparison between the old and new paradigms.

THE OLD AND NEW PARADIGM OF PARKING

Old Paradigm	New Paradigm
Parking problem means inadequate parking supply.	There can be many types of parking problems, including inadequate or excessive supply, too low or high prices, user information, and inefficient management.
Abundant parking supply is always desirable.	Too much supply is as harmful as too little.
Parking requirements should be applied rigidly, without exception or variation.	Parking requirements should reflect each particular situation, and should be applied flexibly.
Parking management is a last resort, to be applied only if increasing supply is infeasible.	Parking's management programs should be used to prevent parking problems.
It is the government's responsibility to Provide parking; it is a social infrastructure.	The market should respond to the demand. Government should stay out of the business of providing parking.
Subsidies in parking are inevitable; government should assist private operators through gap funding and tax incentives.	Subsidies in parking are similar to the poor subsidizing the rich and should not be allowed.
More off-street parking provision is key to solving spillover problems. Parking charges do not matter.	Off-street parking without charges does not work. Multi storied parking lots lie unused.

The new paradigm is based on the management and marked based approach. It advocates moving away from the conventional demand based approach.

6. EXISTING POLICIES AND PLANS

(a) THE NATIONAL URBAN TRANSPORT POLICY

The National Urban Transport (NUTP) of 2006 states that parking can be used as a demand management tool. It says that parking price should truly represent the value of land occupied and should be used as a tool to make public transport more attractive. The policy recommends giving preference in allocation of parking spaces to public transit vehicles and non-motorized transport and a graded scale of parking free. It says that "The price should be fixed based on the value of land."

It asks cities to amend their bye-laws to ensure that 'parking is available to all residents' and that 'multi-level parking complexes should be made mandatory in city centers with high rise commercial complexes'. The table below shows that the NUTP policy has a few contradictions for providing a clear direction for parking. It talks of increasing infrastructure as well as moving towards paid parking for reducing private vehicle usage.

NUTP APPROACH TO PARKING

Policies/ plan	Approach		
	a. Conventional	b. Management	c. Market
	State governments should amend building bye-laws in all million plus cities so that adequate parking space is available for users of such buildings.	 Provide park and ride facilities for bicycle users with convenient interchange. Improve safety for pedestrians by reducing illegal parking 	Levy of a high parking fee that truly represents the value of the land occupied Introduce paid parking as
NUTP	• Multi-level parking complexes should be a mandatory	Utilize parking controls to regulate car usage.	a method to dissuade car use and/or raise revenue.
	Requirement in city centers. • Minimize the impact of on-street parking and encourage off- street.	 Optimize existing parking capacity, before creating new parking facilities. Develop public- private partnerships (PPP) for the operation of either on-street or (more often) off-street parking facilities. 	Utilize fees and fines from parking to invest in the building of car parks and to improve public transport.

7. NEED FOR PARKING POLICY

Private vehicles require enormous terminal capacity. They stay parked for long periods. A private vehicle, typically, stays parked for 20-22 hours in a day (80-92% of time). Other modes of transport spend more time in transit than parking. A car parked on street consumes 15 sqm, while a car parked off street requires 23 sqm. These figures are startling when seen in the context of minimum sizes of dwelling units specified in development control regulations (DCR) of most cities – 18-25 sqm. If we consider that each car requires three parking spaces per day, the total area required by a car each day is between 45 to 70 sqm. Certainly, it proves that providing for more and more parking is not a sustainable solution.

The absence of a comprehensive parking policy in Jamnagar has resulted in independent dealing of the parking issues by multiple stakeholders. This lack of a coherent approach has led to plans and projects that are contradictory in nature and often end being infrastructure projects that require high investment and attempt to solve a short-term parking problem. Jamangar needs a parking policy that has a holistic vision, with strategic objectives and is in sync with Jamnagar's overall transport policy and objective as well as the statutory Development Plan.

8. STRATEGIC INTENT

The strategic intent of any policy is critical, since it lays down the ground rules for further actions to be taken by the city. The strategic intent of Jamangar's parking policy is:

- To manage demand through pricing and other means.
- To reduce private vehicle usage and dependency through "Travel Demand Management (TDM)" strategies.
- To support public transport use wherever possible.

This document sets out the broad principles for Jamnagar's parking policy, the specific areas and conditions in which the policy would operate the strategies for parking management and the implementation framework. The formulation of the policy will be the starting point for the making of programs and specific plans. The policy has been framed based on discussions held with the key stakeholders and review of international/national best practices.

9. GUIDING PRINCIPLES

The overarching principle for parking in Jamnagar is "to progressively reduce the demand for parking and facilitate organized parking for all types of vehicles".

- Jamnagar shall actively pursue a policy of demand management rather than capacity augmentation to manage its parking requirements.
 - Jamangar shall promote high quality public and non-motorized transport

10. PARKING POLICY DIRECTIVES

The parking policy is articulated through Policy Directives. They provides policies and actions to address on-street parking, off-street parking. Loading bays, parking permits, reserved parking, motorcycle and bicycle parking. The policies have been derived from the issues that were highlighted earlier and support the guiding principles.

POLICY 1: CHARGING FOR PARKING

Parking pricing and time limits are important parking management mechanisms to enhance turnover of parking bays and ensure access to limited on street parking in high parking demand areas.

There are many areas in Jamnagar which have very high parking demand due to their land use and activity pattern. Such areas will be classified as premium areas or streets where this policy will be applicable on first phase. The list of premium areas and streets shall be updated regularly based on recommendations of the Standing Committee and Municipal Commissioner. The premium areas and streets recommended in this policy are:

- ✓ P. N. Marg [Ambar crossing to mansarovar apartment]
- ✓ Sumair Club Road [Sat rasta circle to oshwal hospital]
- ✓ Air Force Road [Digjam circle to airforce station]
- ✓ Saru Section Road [Pilot bungalow to mansarovar apartment]
- ✓ 80 feet Road [Opp. raj chamber to golden city]
- ✓ 80 feet Road [Near raj chamber to satyam colony main road]
- ✓ Indira Marg [Subhash bridge to sandhiya pool]
- ✓ Lalpur Road [Pavan chakki to bye pass road]
- ✓ Ranjit Road [Tin batti to subhash shak market]
- ✓ Rajkot Road [Subhash bridge to dhuvav]
- ✓ Hawai Chowk to Darbargadh Road
- ✓ Chandi Bazar Road [Sajuba girls high school to mandavi tower]
- ✓ Ring Road [Samarpan circle to bedi junction]

The motive and intension of the policy is to have a proper and smooth parking facilities to the citizens of the Jamnagar. It is often found that on street parking are being done haphazardly and that creates traffic problems on the streets of the city. On street parking will be free of cost at the time of implementation of the policy. But it shall be chargeable if the parking & traffic problems continuous to happen on these premium roads. Charges will be as per final approval and in power of General Board of Municipal Corporation at the time of implementation. These charges can be revised and it will be in the power of General Board. Bicycles and handicapped modified vechicles shall not be charged for parking. Base rate shall be finalised for two wheelers, auto rickshaws (passenger and commercial), LCV & HCVs. Parking charge when implemented shall be based on space occupied by the vehicles and the demand. It shall be decided on hour basis and as decided by General Board of Municipal Corporation.

These charges shall be subject to revision once in every three years when implemented. Traffic Cell formed by Municipal Commissioner will identify & mark the parking space on street and also mark the "No Parking Zone" on these premium roads with final approval of Municipal Commissioner. Any type of vehicles will not be allowed to park in "No Parking Zone". Premium Roads shall be subject to modify & update time to time by Municipal Commissioner with the approval of the Standing Committee. Vehicles parked in "No Parking Zone" shall be liable to penalties & toeing by traffic police, jamnagar city. Municipal Corporation will not toe or panelised any vehicles.

However the off street parking like parking under over bridges, parking facilities develop in municipal corporation's land etc. shall be chargeable when implemented and charges will be as per final approval and in power of General Board of Municipal Corporation at the time of implementation. These charges can be revised and it will be in the power of General Board.

Parking revenue shall not be considered as a source of revenue and profit making. The revenue shall be used for local road improvement schemes within the area in consultation with local stakeholders. The traffic cell in JMC shall manage the revenue generated from parking. These charges shall be subject to revision once every three years.

POLICY 2: ENFORCING PARKING

Unregulated and illegal parking are rampant in Jamnagar. Provision and maintenance of streets, among other public infrastructure is under the purview of the JMC.

Jamnagar's parking policy shall enable JMC to enforce parking through following mechanisms:

(a) LEGAL FRAMEWORK FOR JMC TO ENFORCE PARKING MANAGEMENT

Legal provisions for empowering JMC to enforce parking management in the city shall be done by framing new rules and regulations under sub-section 36 of section 458 of the Gujarat Provincial Municipal Corporation (GMPC) Act of 1949.

(b) TRAFFIC CELL WITHIN JMC

The Municipal Commissioner shall form a "Traffic cell "within JMC. It shall be headed by HOD (Traffic) of the rank of executive Engineer or above. A team of Traffic Enforcement Officers (TEOs) shall be appointed and shall report to the Director.

Municipal Commissioner shall declare the permitted and prohibited areas for parking. No parking areas shall be defined for smooth flow of people and vehicles. The places for parking of different kinds of vehicles and the rules shall be prominently displayed in local newspapers and published in the official gazette. Leaving a motor vehicle at rest in any public place in such a way as to cause or likely to cause danger, obstruction or undue inconvenience to other road users will be considered an offence. Such vehicles can be towed away or clamped by the Traffic Police Department, Jamnagar City.

Private agencies can be appointed through transparent and competitive bidding process for all these process, Traffic Cell formed by Municipal Commissioner shall ensure that all on-street parking areas, parking lots under bridges and flyovers. Parking lots in municipal plots are clearly marked and easily identified. Specifically, the following standards shall be followed:

- 1. on street parking spaces shall be designed as per IRC:SP:12:2015
- 2. Boundaries of all on-street parking spaces will be marked by white line as indicated in IRC:35-1997
- 3. Signage clearly marking parking and no parking areas shall be marked as per IRC:67-2001
- 4. 10% of all parking space off street or on street –shall be reserved for senior citizens and people with disabilities

JMC will follow certain guidelines while defining no parking areas. These will include:

- 1. Prohibition of parking for at least 75m from all junctions
- 2. Prohibition of parking at least 10m from all zebra crossings

POLICY 3: REDUCING PARKING MINIMUMS

Free and excessive parking encourages vehicle ownership. Studies have establishes that growing supply of free parking also results in more vehicle- kilometers. In addition, minimum parking requirements also add to development costs and makes housing expensive.

Jamnagar shall look at progressively reducing its minimum parking requirements. Minimum parking standards shall be linked to land use, transit proximity, presence of off-street parking facilities in the vicinity, and sharing of parking. Currently, Jamnagar's parking standards reflect the fact that the house owner must bear the cost of parking – even if he does not own a vehicle. This is an unfair burden on someone who does not wish to own a vehicle and prefers public transport or other modes instead. These standards shall be modified in the following manner.

· Reducing demand by lowering parking standards

The prevailing practice of liking standards with land use shall be discouraged. The parking standards will be lowered through a systematic study of land use, distance from transit, distance from city center and densities.

Reducing the parking requirements near transit

Developers may further reduce the amount of parking along transit corridors by 25%. This will ensure that public transport is incentivized.

The current parking minimums in the Comman GDCR-2017, Dt. 03.10.2019 shall be used to benchmark the limit for the coming 5 years.

No.	Type of Use	Minimum Parking Required	Visitor's Parking and Remarks
(1)	(2)	(3)	(4)
1	Dwelling-1, Dwelling-2	1car parking - for more than 80 sq.mt and up to 300 sq.mt of plinth area per unit.	Nil
		Additional 1car parking for every 100.00 sq.mt additional plinth area per unit.	
		This shall be permitted within the marginal space	
	Dwelling-3	20% of Total Utilised FSI	10%, of the required parking space shall be provided as visitors parking
2	• Mixed Use (Residential + Commercial)	(a) For respective Residential use, parking shall be provided as Dwelling-1,2 or 3, as the case may	10% of Residential parking requirement (a); and 20% of the Commercial parking in (b) shall be provided as visitors parking.
	Mercantile,	be.	in (b) shall be provided as visitors parking.
	• Religious,	• 30% of utilized F.S.I. for building	
	Hospitality,	unit up to 750 sq.mts.	
	Transport	• 40% of utilized F.S.I. for building unit above 750 to 2000sq.mt.	
		• 50% of utilized F.S.I. More than 2000sq.mt.	
3	Assembly-1,2&3	50% of Total Utilised FSI	20% of the required parking shall be Provided as visitors parking
3a	Assembly-4	50% of Building-unit Area	
3b	Assembly- Stadium 1	1.25sq.mt of parking area per person of the Total stadium capacity	
4	Institutional Buildings, Public Institutional Buildings	50% of Total Utilised FSI	In case of Hospitals and nursing homes, additional parking of Ambulance shall be provided at the ground level.
5	Industrial-1, 2, 3 & 4; Storage,	10% of the Total Utilised FSI	Nil
6	Educational	(a) Primary & Pre schools- 25% of the Total Utilised FSI	Facility for drop-off and
		(b) Secondary & Higher Secondary Schools - 40% of the Total Utilised FSI	pick-up shall be provided withinthe premise.
		(c) Colleges and coaching classes -40% of the Total Utilised FSI	10% of the required parking shall be provided as visitors parking
7	Sports & Leisure	25% of Building-unit Area	10%
8	Recreation	10% of Building-unit Area	10%
Note	:- 50% of the visitor parking s	shall be provided at ground level.	

This shall be set as the parking minimum standards for the city. JMC shall publish a map of Jamnagar indicating the revised parking minimums. The commissioner may with the approval of the corporation amend the DCR in Parking Minimums only. All new developments in Jamnagar shall supply parking as per the revised minimums.

POLICY 4: SHARING PARKING

Often, it is observed that certain off street parking remains vacant at specific times of the day. This happens near schools, office, building and residential areas. Other vehicles to that area are unable to use that parking due to ownership and jurisdiction issues.

Jamnagar municipal corporation shall encourage sharing parking space amongst different building and facilities which are in the same locality or proximity. For example, schools, hospitals, factories and banks have peak parking demand during weekdays while places like parks and malls have their peaks during weekends. Shared parking in the nearby areas will allow efficiency in terms of parking management and space allocation. This shall happen with the mutual consent of both parties and subject to a "no objection" from the president/ chairman/ secretary of the premises.

POLICY 5: REGULATING IPTS PARKING

Jamnagar had approx. 3,000 auto rickshaws in 2018. It has only been increasing since then. This policy directive shall apply to all demarcated areas for IPT in the city.

Jamnagar shall have designated on-street spots for parking taxis and auto rickshaws. These spaces shall be specifically demarcated by the Regional Transport Office and Traffic Police Department with concern and any help needed from JMC. No IPTS parking shall be provided near junctions. No charges shall be recovered from IPTS for using these spaces. Other vehicles shall not be permitted to park in these areas. IPTS shall not be allowed to park in spaces designated for other vehicles.

Higher priority shall be given for IPTS parking in areas within 300 m from transit stations. Any IPT parking in an undesignated area shall be liable for appropriate penalty by Traffic Police Department.

Concern branch of JMC shall demarcate and provide necessary infrastructure like, signages, marking etc. to all IPT parking decided by RTO and Traffic Police.

POLICY 6: MANAGING FREIGHT

In Jamnagar, allowing freight vehicles to ply on internal streets during all times of the day has resulted in reduced capacity and efficiency of streets. In order to control this, the policy recommends managing movement and parking of freight vehicles.

In order to manage freight parking, it is essential to prepare a city-wide vehicles management plan. Apart from decongesting parts of the city's road network. Such a step also gives way to regulate on-street loading and unloading areas, parking of cargo vehicles etc. this section aims to address the unregulated parking of heavy trucks and other cargo vehicles on-street.

Freight vehicle parking shall be allowed only such demarcated zones as described earlier. In order to ensure efficient utilization of street capacities, freight parking shall be limited to specific hours of the day, which shall be decided by Municipal Commissioner with standing committee resolution.

For the first phase, Municipal Commissioner shall outline streets on which movement of heavy freight vehicles shall be completely restricted subsequently a detailed freight management plan with resolution of standing committee shall be prepared. This shall also entail a system for providing vehicle parking certificates manages all registered freight vehicles.

Passenger travels in private buses entering in the city for pickup and drop the passengers often creates traffic issues on the roads. Right now from different cities of Gujarat are well connected by the roads to Jamnagar City. Jamnagar Municipal Corporation shall decide the period of "No Entry" in the periphery of the city to these private travels buses and vehicles as per approval of Standing Committee Resolution. Private travels shall have to pickup & drop passengers from their offices or any pickup & drop points within the city by small vehicles only within the city. Private travels shall have

to park their vehicles outside the city limit at their own cost and risk. Municipal Commissioner shall have power to decide the time period of "No Entry" within the city for such heavy passenger and freight vehicles with resolution of Standing Committee. It shall be subject to revision.

11. PARKING TECHNOLOGIES-SMART PARKING

JMC shall implement ITS strategies as detailed in this section. The overarching objective shall be to charge users of parking facilities, while also incentivizing those who are successful in reducing their demand for parking. The smart parking facilities shall enable a citizen of Jamnagar to (1) find a free parking spot in the city centre; (2) be advised of the probability for the parking spot to be still available upon his arrival in the city center and 3) decide on reserving and pre-paying for such a parking spot. The other benefits of implementing smart parking systems in Jamnagar shall be improvement in vehicle circulation, space usage and unified fee processing system.

To sum up, smart parking management in Jamnagar shall have three main objectives:

- (a) To control access to parking areas and to set-up advanced payment systems
- (b) To reduce the time spent while searching for available parking space
- (c) To improve the service efficiency of parking lots.

The following section details out the possible applications of smart parking technology.

(a) ADVANCE INFORMATION ON AVAILABILITY OF PARKING LOTS

It has been estimated that up to 30% of traffic in the city centre is made up of vehicles cruising for parking spaces. By displaying dynamic information on the availability of parking spaces in Jamnagar, the extent of driving around in search of parking areas can be significantly reduced. These can be installed at critical decision points such as malls, commercial centers and even around shared parking facilities. Such a strategy will also lead to increased faith in the parking management system. Such information can also be displayed to users through the internet and phone. JMC shall actively implement the parking meter technology, to charge the parking fees and to keep transparency in the transactions. Like discussed in the previous sections. Pricing is one of the most effective strategies to manage on-street parking spill over and congestion. These parking meters shall display dynamic prices varying with time of day. The mode of payment shall range from cash to online payments, including smart cards.

JMC may, in the long run also consider seamless integration of public transport facilities with a travel card that could also be used to pay parking charges. JMC shall also consider pay by phone technology through a dedicated web and mobile application. This offers additional benefits. Including lower costs since JMC can do away with the cost of meters on the curb.

(b) PARKING GUIDANCE AND INFORMATION SYSTEM

Parking Guidance and information (PGI) systems are based on the use of message signs to give drivers information regarding parking availability. PGI systems are designed to aid in the search for vacant parking spaces by directing drivers to car parks where occupancy levels are low.

The availability of parking spaces in each facility is obtained from sensors that count the number of cars entering and exiting or, in other cases, by comparing the tickets issued at machines or cash registers to the capacity of the facility. This information is sent to a central or main computer that processes it, determining the locations of available parking. Availability is generally expressed in terms of full or empty but in some cases the actual number of spaces is given.

For Jamnagar, The PGS aims to encourage a more efficient use of existing parking facilities and reduce the amount of parking search traffic by providing information to drivers concerning the locations and availability of parking spaces.

THE GUJARAT GOVERNMENT GAZETTE PART-II (Ext.) Dt. 17-12-2022 JAMNAGAR MUNICIPAL CORPORATION

JAMNAGAR

PARKING BY LAWS – 2022

GUIDELINE TO MANAGE PUBLIC PARKING INFRASTRUCTURE IN JAMNAGAR CITY

CONTENTS

	Preface	3
1	Title and Commencement	5
2	Definitions	5
3	Jurisdiction	7
4	Standards	7
5	Traffic Cell- Duties and Responsibilities	7
6	Procedures and Requirements	8
7	Implementation Plan	9
8	Fees and Additional Charge	10
9	Mode of Payment	10
10	Exemptions	10

PREFACE:

The Gujarat Provincial Municipal Corporation Act, 2002 ("GPMC") states that providing and maintaining the public parking facilities is under the purview of Urban Local Authority. In contemporary phase, parking enforcement is managed by the Traffic Police. They fine and/or tow away illegally parked vehicles that hinder the traffic flow or illegally parked on the public street. Often, they cannot enforce due to lack of adequate traffic Policemen or lack of equipment to tow away vehicles. So far, Jamnagar Traffic Police Department has discharged their duty in this regards with utmost care and diligence. However, Jamnagar City in the past decade has grown leaps and bounds and hence the population of the city has registered phenomenal growth. With more number of rural vicinities merging with Jamnagar city and rising population, as well as increasing number of vehicles has paused a series rise in traffic issue, This leads to situations where parking violations occur frequently, leading to traffic congestion and safety issues for all the residents of the city.

In order to cope up with The recent developments in the city Jamnagar Municipal Corporation therefore, steps forward and look towards building and managing the robust parking infrastructure and enforcement in its jurisdiction with a view to inter alia ensure organized street parking.

The relevant provision of the GPMC Act in this regards is as follows:

Section 458 of the GPMC Act provides:

"458. By-Laws for what purpose to be made

"The Corporation may from time to time make by-laws not inconsistent with this act

And the rules, with respect to the following matters, namely....

(36) Securing the protection of public parks, gardens, public parking places and open Spaces vested in or under the control of the Corporation from injury or misuse, regulating their management and the manner in which they may be used by the Pubic and providing for the proper behaviour of persons in them".

These new rules and regulations shall be framed under sub-section 36 of section 458.

The Central and State Government (2017) have already declared their intention of framing new rules and regulations that shall make it mandatory for new vehicle owner to furnish proof that a parking area is available with the purchaser to park the vehicle. JMC shall also consider this policy based on rules and regulations that shall be formulated by the central and state Government.

1. TITLE AND COMMENCEMENT:

- A. These by-laws may be called the Jamnagar Municipal Corporation (Parking) By-laws, 2020
- B. These by-laws shall come into force with effect from the date of publication in the official gazette of the State of Gujarat.
- C. These by-laws shall apply to the area under the jurisdiction of the Jamnagar Municipal Corporation.

2. DEFINITIONS:

In these Parking By-laws, unless there is anything inconsistent with the context or meaning:

- 1) "Act" means the Gujarat Provincial Municipal Corporation Act 2002;
- 2) "Additional Charge" shall have the meaning specified in Clause 6(4) of these by-laws.
- 3) "BRTS Lane" means a lane meant to carry Bus Rapid Transit System (BRTS) buses only And clearly marked through lane markings and signage;
- 4) "Bus Stop/Station" means a facility provided for passengers using public transport to board and disembark from the public transport vehicle;
- 5) "City" means the city of Jamnagar;
- 6) "Corporation" or "JMC" means the Jamnagar Municipal Corporation;
- 7) "Cycle Track" means a segregated lane earmarked exclusively for use of bicycles;
- 8) **"Emergency Vehicle"** means a vehicle used for emergency purpose such as transporting Patients to hospitals, fire engines on duty, police vehicles on duty and other JMC vehicles on Relief and rescue work;
- 9) **"Footpath"** means a type of through fare that is intended for use only by pedestrians and Not for other forms of traffic such as motorized vehicles;
- 10) "IRC" means the Indian Road Congress Codes;
- 11) **"Impound Lot"** is a specific area identified by the JMC to park vehicles that are towed away for parking / traffic rule violations;
- 12) **"Motor Vehicle"** includes an automobile ,bus, truck, motorcycle, motor assisted bicycle, Motor scooter and any other vehicle propelled or driven other by muscular power;
- 13) "Multi-level Parking" is an off-street parking facility on one or more levels;
- 14) "Non-Use Vehicle" means vehicles which have not been used for driving for over a period of 90 days;
- 15) "Off-Street Parking" means the act of parking in a place that is not on street and may be in a private/public domain or in a multi- level/surface parking facility;
- 16) "On-Street Parking" means the act of parking on the street in an area specifically designated For parking;
- 17) **"Park" or "Parking"** means the act of leaving a motor vehicle in a designated space as Notified by the Corporation for some limited duration of time;
- 18) "Private Property Area" means any property that is not under government/ULB ownership;
- 19) **"Parking area"** means an area enclosed or unenclosed, covered or open, which is sufficient In size to park vehicles and includes any drive way connecting them with a street or alley and Permitting ingress or egress of vehicles;
- 20) **"Parking Charges"** are charges collected by the Jamnagar Municipal Corporation from users for parking in a designated area;

- 21) "Parking Permit" means a permit given by the JMC to users to park vehicles in designated areas for specific period after pre-payment of fees set by the JMC;
- 22) "Pedestrian" means any person travelling on foot whether walking or running;
- 23) "Right of Way" or "Row" means the entire area between property edge property edge that is in the public domain and including features of carriage way, footpath, street furniture Median, traffic signals, cycle tracks, etc.
- 24) "Traffic Enforcement Officer" or "TEO" means the person authorized to carry out Parking Enforcement activities under these by laws.

All other words and expressions used in these Parking By-laws but defined in the act shall have the same meaning as respectively assigned to them in the Act.

3. JURISDICTION

The provision of the bye-laws shall apply to the area under the Jamnagar Municipal Corporation (JMC). It shall include:

- 1) All highways and parts of highways
- 2) All lanes or alley in public Row
- 3) All public rights-of-way and Public streets or roads
- 4) On-Street and Off-street parking places and areas
- 5) Private property if specifically noted in these rules for temporary period as and when declared by the Municipal Commissioner.

4. STANDARDS:

The Corporation shall ensure that all areas for On-Street Parking, including parking areas under bridges and flyovers, parking lots in Municipal plots are clearly marked and easily identified. Specifically, the following standards shall be followed:

- (1) On-street parking spaces shall be designed as per IRC:SP:12-2015;
- (2) Boundaries of all spaces for Street Parking will be marked by white line as Indicated in IRC:35-1997;
- (3) Signage clearly marking parking and no-parking areas shall be marked as Per IRC:67-2001

5. TRAFFIC CELL-DUTIES AND RESPONSIBILITIES:

- (1) The Municipal Commissioner shall form a "Traffic Cell" within the JMC. It shall be headed by Director (Traffic) of the rank of Executive Engineer or above.
- (2) Traffic Enforcement officer who shall be of the rank "Assistant Manager" or "Deputy Engineer/Asst Engineer or any other rank Shall be appointed and shall report to the Director or concern higher official;
- (3) Traffic Cell will decide the parking zones i.e. parking and no parking spots on premium roads with approval of Municipal Commissioner.
- (4) Traffic Cell will co-ordinate with concern branches regarding providing basic infrastructure on street parking as well as IPT.
- (5) Private agencies can be appointed through transparent and competitive bidding Process for collection of fees, penalties towing and no parking charges in the City under the supervision of authorized officer appointed by Director (Traffic).

6. PROCEDURES AND REQUIREMENTS

The Municipal Commissioner may authorize Director (Traffic) of Traffic Cell to carry out the duties and responsibilities for the purpose of these by-laws on his behalf. The procedures and requirements for the Corporation to enforce parking by-laws in the City shall include the following:

- (1) The Municipal Commissioner or an officer authorized by the Commissioner may determine places at which motor vehicles may stand either Indefinitely or for a specified period of time, and may determine the place at Which public service vehicles may stop for a longer time than necessary for The talking up and setting down of passengers.
- (2) The places for parking of different kinds of vehicles and the fee shall be published in local newspapers.
- (3) The Municipal Commissioner may declare "no parking" areas for smooth flow of people and vehicles.
- (4) On-street and off-street parking charges shall be decided by the Municipal Commissioner with the approval of General Board from time to time.
- (5) On-street parking shall be discouraged around or adjoining roads or areas near multi-level parking. This area shall be decided by the Municipal Commissioner and can be changed as and when required. (Unless otherwise specified).
- (6) On-street and off-street parking shall be permitted for a maximum period of time as decided by the Municipal Commissioner with Resolution of Standing Committee.
- (7) In the event a motor vehicle if left at rest in any public place in such a way as to cause or likely to cause danger, obstruction or inconvenience to others, such vehicles can be towed away or clamped by the Traffic Police Department, Jamnagar City.
- (8) If any motor vehicle is stationary, abandoned or left unattended in any place other than a duly designated parking place in such a way as to cause obstruction to traffic or danger to any person or creating a traffic hazard, TEO or duly appointed or authorized staff may:
 - a. Forthwith cause the vehicle to be moved under its own power or otherwise to the nearest place where the vehicle will not cause undue obstruction or danger;
 - b. Unless it is moved to a position where it will not cause obstruction or danger or hazard, cause to be taken all reasonable precautions to indicate the presence of the vehicle;
 - c. If the vehicle has been stationary, abandoned or left unattended in parking or no parking area for a continuous period of 48 hours, TEO shall inform the police for further action;
 - d. In case of "non-use vehicle "lying stationery in private or public place for more than 90 days, TEO shall inform the police for further action.
- (9) Officer in-charge of a parking place and TEOs shall be issued identity cards by JMC.
- (10) The Municipal Commissioner with the approval of the General Board may amend these parking by-laws as and when required.
- (11) JMC shall not be responsible for any damage to the parked vehicle.

7. IMPLEMENTATION PLAN

The contents of the by-laws may be implemented through the following plan:

(1) Sharing parking:

The same space may be allowed to be shared between more than one owners. In such a case, a "no objection" must be taken from the president/ chairman/ secretary of the premises where the shared parking is applicable. This agreement shall be considered as proof of parking and a unique ID issued.

(2) Proof of parking:

As and when JMC frames rules for proof of parking, citizens desiring to purchase new/ second hand vehicles shall furnish a proof of parking certificate. This certificate shall be for a parking slot in an area not more than 250m from the residential address mentioned in the vehicle purchase documents.

8. FEES

- 1. The Municipal Commissioner with approval of General Board may define fees for the designated Parking areas in the city. The parking fees can vary depending on the vehicle, location, time of the day and duration of parking.
- 2. Parking fees shall be displayed at appropriate locations in the City
- 3. The Municipal Commissioner with approval of General Board can modify the fees from time to time as required.

9. MODE OF PAYMENT

Mode of payment shall be by cash or by any other application developed by Jamnagar Municipal Corporation

10. EXEMPTIONS FROM PARKING FEES

- 1. Authorized Emergency vehicles where the operator is engaged in the Performance of their duties;
- 2. Vehicles which are exempted, permit would be issued by JMC and/ or traffic Police for various purposes and for specific period of time.
- 3. Passenger Auto Rickshaw and Taxi parked in demarcated and specified as IPT parking locations decided by RTO and Traffic Police.
- 4. Special vehicles for Handicapped person.

